What is claimed is:

1	. A method for labricating an electrospray ionization microelectromechanical	
2	device, comprising the steps of:	
3	71 5	n opposing second
4	surface;	
5	, ,	rface and said second
6	surface of said substrate;	
7	, 1 5 1	•
8 9	•	fuctivity type of said
10	d) forming a silicon nitride film on said first silicon oxide l	ayer;
11	e) patterning and etching said silicon nitride film to form a	t least one silicon nitride
12	contact area on said first silicon oxide layer;	
13	f) oxidizing said substrate, after step (e), to increase said fir	rst silicon oxide layer;
14	g) coating a first photoresist layer on said first silicon oxide	e layer;
15	, 0 1	d pattern consisting of a
16	nozzle channel;	
17	i) transferring said first pattern onto said first silicon oxide	layer;
18	j) etching said first pattern into said silicon substrate for a f	first period of time;
19	k) removing said first photoresist layer;	
20		C
21 22	, ,	sist layer on said second

23	m) defining a second pattern on said second photoresist layer, said second pattern consisting of a nozzle orifice, said second pattern being aligned on said
25	second photoresist layer such that said nozzle orifice and said nozzle
26	channel are substantially axially aligned;
27	n) transferring said second pattern into said second silicon oxide layer;
28	o) removing said second photoresist layer;
29	p) coating a third photoresist layer on said second silicon oxide layer;
30	q) defining a third pattern in said third photoresist layer, said third pattern
31	consisting of a recessed region and a portion corresponding to said nozzle
32	orifice, wherein said second pattern is not occluded by said third
33	photoresist layer;
34	r) etching, after the step of defining said third pattern, said second pattern into said
35	silicon substrate for a second period of time;
36	s) transferring said third pattern into said second silicon oxide layer;
37	t) etching simultaneously, after the step of transferring said third pattern, said
38	second and third patterns into said silicon substrate for a third period of
39	time;
40	u) forming, after step (t), an isolation layer on at least all silicon surfaces of said
41	nozzle channel;
42	v) removing, after step (u), said silicon nitride from said at least one silicon nitride
43	contact area and removing any of said first silicon oxide layer beneath said
44	at least one silicon nitride contact area, thereby forming at least one contact
45	area on said first surface; and
46	w) depositing a metal on said at least one contact area.
1	2. A method according to claim 1, wherein said etching in at least one of steps (e), (j), and
2	(r) is performed by dry etching.

- A method according to claim 1, wherein said step of removing said silicon nitride is
 performed by wet etching in hot phosphoric acid.
- 4. A method according to claim 1, wherein said step of removing said silicon nitride and
 said pad oxide is performed as an unmasked etch by reactive ion etching.
- 1 5. A method according to claim 1, further comprising shadow masking, before step (v),
- 2 said at least one silicon nitride contact area and wherein said step of removing said
- 3 silicon oxide and said oxide is performed by reactive ion etching.
- 6. A method according to claim 1, wherein step (c) is performed before step (d).
- 7. A method according to claim 1, wherein step (c) is performed after step (v) and before step (w).